

Valproate

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A Case of Valproate-induced Reversible Parkinsonism

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Valproate is one of the most popular conventional anti-epileptic drugs. It has many side effects and in rare cases, it may result in the development of parkinsonian syndromes. The parkinsonism with valproate shows insidious onset and reversible symptoms after drug withdrawal. We observed a 69-year-old woman with resting tremor, bradykinesia, cogwheel rigidity after 2 months of valproate use. She had been suffering from epilepsy for 30 years. Her seizures were well controlled with valproate, but parkinsonian symptoms slowly progressed with doses of 1200 mg/day of valproate. After 4 months, we discontinued the doses of valproate which led to subjective and objective improvement of the parkinsonian features. The mechanism of this side effect is not well established, but GABAergic neurotransmission or mitochondrial respiratory chain may possibly be related.

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Key Words : Valproic acid, Parkinson disease/Secondary

(parkinsonism) (resting tremor), (cogwheel rigidity), (bradykinesia), (postural reflex) . 69 가 1997 3 25 30 (generalized tonic-clonic convulsion) . 40 1,2 2 - Valproate 1970 . Valproate가 ,<sup>3,4</sup> 가 (sen-sorineural hearing loss)<sup>5</sup> , 가 1 6-11 2 2~3 1 5 (gingival hyperplasia) . valproate 가 1 digoxin 0.125 mg, amiloride 2.5 mg, captopril 25 mg, aspirin 100 mg . 가 . (post-ictal confusion) 가 (brain MRI)

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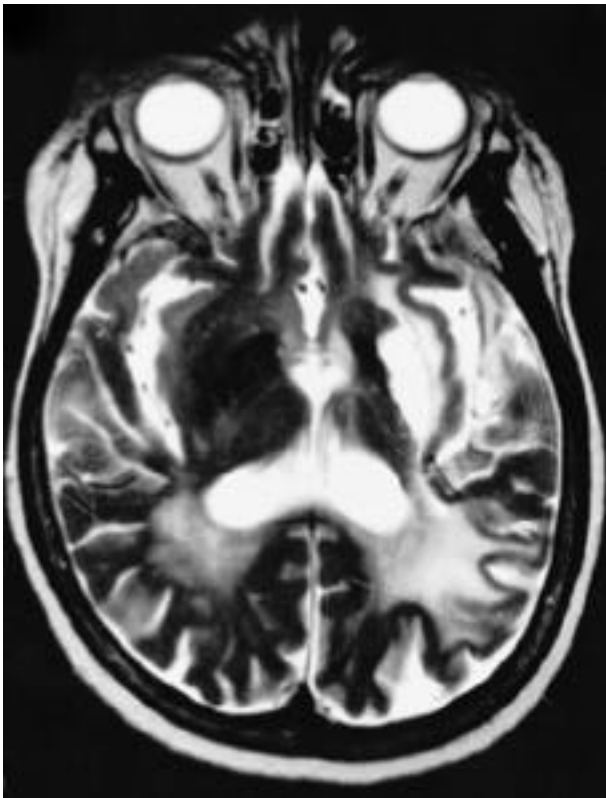
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**Figure 1.** Brain MRI of the patient. T2 weighted axial MR image shows old left middle cerebral artery territory and basal ganglia infarctions with mild diffuse cerebral atrophy.

(Fig. 1).

가 40 mm/hr 가

phenytoin 18 mg/kg 1  
phenytoin 300 mg

phenytoin val-  
proate vlaproate 10  
valproate 96 µg/ml  
valproate 900 mg

2 1 valproate 1200 mg  
Valproate 2  
(resting tremor)

(cogwheel rigidity)  
(stooped posture) 가  
(bradykinesia),  
(festination)  
(postural reflex)가

가 valproate 4  
valproate phenytoin Valproate  
600 mg 1 valproate 35 µ  
g/ml Phenytoin 2

가  
가

phenytoin 200 mg

가

(Wilson's disease),  
(hypothyroidism),  
(hypoparathyroidism),  
(acquired hepatocerebral degeneration)

<sup>12</sup> (extrapyramidal system)  
phenothiazines, butyrophenones, thiox-  
anthenes benzamides

<sup>1,2</sup>  
Valproate 가 가

(essential tremor)  
(sensorineural hearing loss)<sup>5</sup> Valproate  
valproate

<sup>3,4</sup> 가  
(sensorineural hearing loss) val-  
proate가 (cochlear hair cell)  
(auditory nerve)

<sup>5</sup> valproate 가  
<sup>6-11</sup> MPTP  
(1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine)

(idiopathic Parkinson's disease)  
valproate

valproate valproate

valproate

<sup>6</sup>  
Valproate 가  
valproate  
(mitochondrial respiratory chain)

<sup>6</sup> MPTP  
Complex I(NADH  
CoQ reductase)  
proate가 Complex I  
<sup>13,14</sup> val-  
<sup>15,16</sup> valproate GABA(gamma

aminobutylic acid) 가 .<sup>17</sup>  
 GABA (projection pathway)  
 (neurotransmitter)  
 가 (putamen) GABA가 가 .<sup>18</sup>  
 GABA-mimetic agents가 .<sup>19</sup>  
 GABA  
 valproate Complex I  
 GABA 가  
 가 phenytoin  
 2  
 valproate  
 valproate ,  
 가  
 valproate  
 valproate 2  
 6-8  
 valproate  
 가  
 valproate  
 가  
 6 가 .

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